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Cover page — **photo by Edwin C. Hunton**

John C. Pierce, Deputy Director of AMS's Livestock Division, illustrates a new dual grading system for beef which USDA will inaugurate July 1. It will be on a trial and optional basis for one year. This will allow the livestock and meat industry an opportunity to see it in operation and to test its effectiveness.

The new dual grading system for beef provides for two separate identifications on carcasses. One covers such factors as tenderness, juiciness, and flavor. The additional standard relates to cutability, which means the percentage of salable meat retailers can cut from beef carcasses.

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New Dual Grading System for Beef

By DAVID M. PETTUS

BEGINNING July 1, the livestock and meat industry will be offered an opportunity to evaluate a new approach to beef grading, when the U.S. Department of Agriculture makes a dual grading system *available on a trial and optional basis.*

The new program, if generally adopted, would provide greater dollar and cents incentive through the private marketing system for cattlemen to produce the type of beef that consumers want.

The trial period for evaluation will last one year.

The proposed dual grading system would provide for two separate grade identifications on beef carcasses. The quality grade, which indicates palatability of meat—reflecting factors associated with tenderness, juiciness, and flavor—has been widely used for over a quarter-century. The proposed additional standard relates to the cutability—the percentage of salable meat which the retailer can cut from the carcass.

In today's market both of these characteristics strongly influence the ultimate value of the beef carcass.

Dual grading provides a more precise market identification for beef carcasses and is also applicable to live cattle. It therefore would furnish the means for a more accurate reflection of consumer preferences back through the marketing channels to the producers.

This should result in the producer being paid for his cattle on the basis of their value at the retail-consumer level. More important, it would encourage the production of meat-type cattle with carcasses that combine high-quality meat with thickness of muscling and a minimum of excess fat.

The Agricultural Marketing Service's

The quality grade of dual-graded beef will be identified by a ribbon-type imprint of the quality name just as it is now. The cutability grade will be stamped on each quarter of the carcass. Both will appear in red ink. However, the cutability grade, mainly of interest to the trade, will not necessarily show up on retail cuts as the quality grades do at the present time.

. . . new dual grading system available

Livestock Division has been developing and testing the dual grading system for nearly 10 years. It has been demonstrated before cattle producers, market agencies, meat packers, and university research groups.

The current grade standards utilize the best indicators of the quality of beef that research has provided to date. These indicators of palatability are considered in determining the quality half of the dual grade, and the same reliable grade names—Prime, Choice, Good, Standard, Commercial, Utility, Cutter, and Canner—are used to identify quality differences.

The present grading system gives no direct consideration to the most important factor affecting cutability—the amount of excess fat that retailers trim off retail cuts to make them more acceptable to the consumer.

Cutability differences will be identified by six yield grades. These will be numbered from No. 1 to No. 6, with No. 1 representing the highest yield of retail cuts and No. 6 the lowest.

Under the present Federal meat grading program, the grade of a carcass is indicated by a purple, ribbon-like imprint of the grade name enclosed in a shield. This grade name is applied to all the major cuts of the carcass and appears on most retail cuts. Dual-graded meat will be identified by a similar ribbon-like imprint of the quality name, and also a cutability grade stamped on each quarter of the carcass. These grades will be stamped in red.

USDA research has shown that cutability can be accurately predicted by considering just four basic factors: (1) the thickness of fat over the rib eye, (2) the size of the rib eye, (3) the quantity of kidney, pelvic, and heart fat, and (4) the carcass weight. Determination of cutability and quality can be made at the same time by the official grader.

Obviously, as a carcass increases in fatness, more fat must be trimmed in making retail cuts. Size of the rib eye is a measure of carcass muscularity; thus, the more thickly muscled the carcass, the higher will be its cutability grade. All other factors remaining constant, an increase in carcass weight results in a lower cutability.

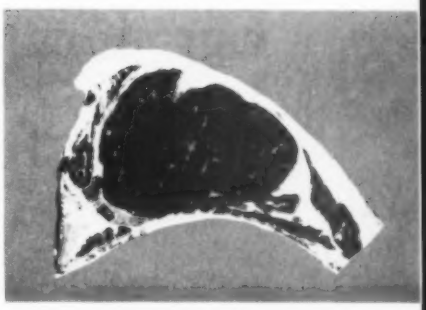
With the trend toward closer trimming of fat by the retailer, cutability differences in beef animals of the same quality grade and weight are becoming more and more significant. Dual grading will provide a market identification of these differences, and thus provide the means for reflecting the necessary dollar and cents incentive to producers to increase the volume of high-quality meat type cattle—the kind needed to meet present-day consumer demand.

USDA studies have demonstrated that dual grading of live cattle can be accomplished with a high degree of accuracy, permitting the new system to be applied to all normal marketing channels.

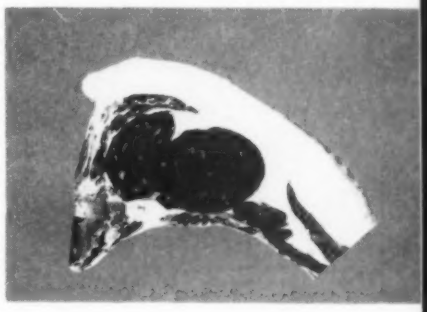
Provisions of the current meat grading regulations are being revised to enable the USDA to offer the dual grading system on an optional basis, in addition to the current Federal meat grading program. Applicants may request either or both systems of grading. Users of USDA's acceptance service may have dual-graded meats accepted by requesting such meats in their invitations for bids, and by making the necessary changes in contracts or specifications.

Members of industry and other interested persons are invited to submit written data, views, or arguments concerning the proposed standards for dual grading to the Director, Livestock Division, Agricultural Marketing Service,

This steer graded the same (U.S. Choice), weighed same (1150 pounds), and brought its owner the same price ($24 per hundredweight) as the steer below. But the carcass from this meat-type animal will be worth more to the retailer. It will yield a higher percentage of boneless cuts from rib, round, loin, and chuck. It will yield less fat.



This over-finished steer produces high-quality beef but yields less meat, more fat than meat-type steer above. This animal has a thick fat covering, full flank, wasty brisket, and in comparison with steer above has less firm finish, thinner muscling. Carcass had 9 square inches of rib eye area; carcass from the meat-type, 13 square inches.



to livestock and meat industry on a trial and optional basis.

U.S. Department of Agriculture, Washington 25, D.C., after they have had an opportunity to observe the new system in operation. The deadline for such comments is July 1, 1963. The one year of operation is planned to allow ample opportunity to evaluate the new standards before comments are presented.

The author is Director, Livestock Division, Agricultural Marketing Service, USDA.

A statement by the Secretary of Agriculture on Dual Beef Grading:

The Department is proposing this change in the beef grading system—instituted more than 35 years ago, at the request of producers—because it believes dual grading will: (1) help the industry by continuing to expand the demand for high quality beef (2) provide cattlemen with a larger share of the consumer's dollar spent for beef, (3) reduce marketing costs by encouraging increased production of meat-type cattle, and (4) more accurately reflect current consumer preferences for less fatty beef.

The Department has worked on this development with universities, research organizations, producer groups, and others in the livestock and meat industry over the past 10 years. Out of this research and testing came the concept of the "dual grading" standards we are now proposing. We feel a number of firms will find this service useful and will ask for it when it becomes available July 1, in order to test the dual grading approach in their commercial operations during the one-year "rule-making" period. The best way to appraise such a proposal as this is by actual operation. This proposal would mean a major change in beef grading, and we want to give the industry full opportunity to test it.

The ultimate promise of dual beef grading for consumers is clear cut—increased supplies of high quality beef, bred especially to suit consumer preferences just as the broiler-fryer, the modern turkey, and the meat-type hog have been bred to suit these preferences.

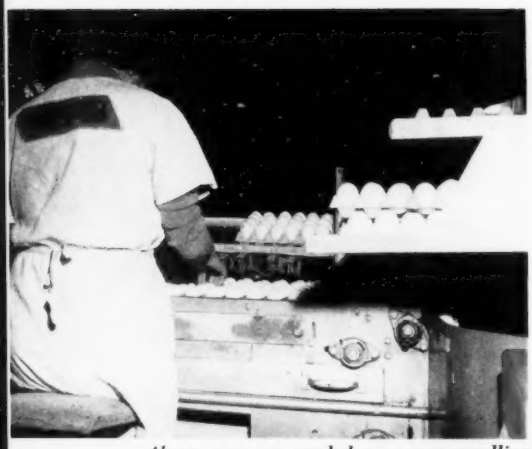
Dual grading promises cattle producers immediate as well as long-range benefits. Specifically, it will provide the means for the producer to be paid more nearly in line with the ultimate retail value of his product than is possible at present. It should provide the financial incentive for producing meat-type cattle—and the kind of beef that consumers like. Beef-type cattle producing a high yield of trimmed retail meat cuts may well bring the producer $25 to $30 per animal more than he now receives for the same grade.

Dual grading also will give the meat trade another tool to help improve the good job it is doing in merchandising beef.

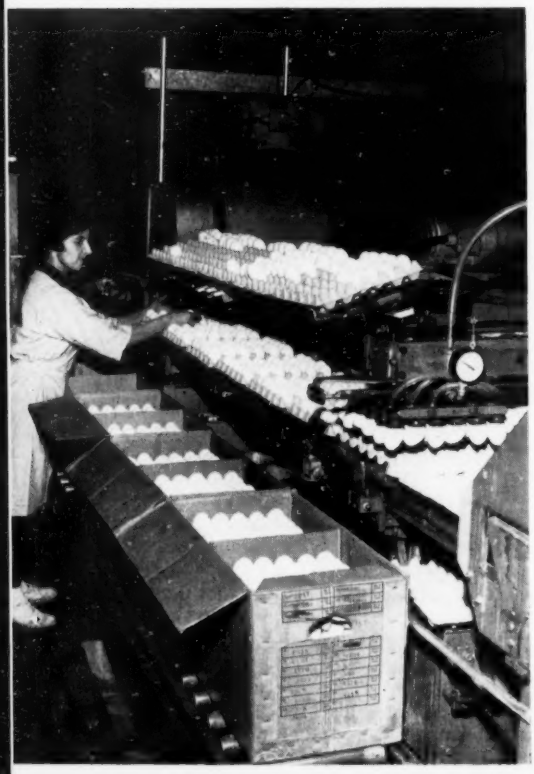
Federal meat grading has been important to the beef industry in achieving its strong competitive position in the meat market. This has been done by giving retailers a tool whereby they could promote beef on a quality basis, with assurance they could at all times purchase the grade preferred by their customers.

It is a tribute to the industry that they recognize the continuing need to improve the acceptability of their product to maintain the leading position of beef in the market. This is the way to hold on to and expand markets. The Department lauds the livestock and meat industry for this kind of foresight.

Egg Grading and Packaging Equipment for the Producer-Packer



Above, eggs are graded on a mass-candling device. Below, eggs are packed in filler-flats and cases for wholesale distribution.



By THOMAS F. TODD

MECHANIZED egg grading and packaging on the farm is a growing trend in today's poultry industry. The variety of equipment available for egg grading and packaging is also growing. How does a producer-packer decide which of this equipment is best for his particular needs?

Here are some answers offered by marketing researchers of USDA's Agricultural Marketing Service.

First, an operator should review his equipment needs. Depending on what he already has—and the size of his business—he may need just the more fundamental equipment to grade and package eggs, or he may profit by partial or complete installation of such auxiliary equipment as is used for emptying cases of eggs, shell treating, packing eggs in cartons, etc.

Once he determines the needs of his plant, the operator still must choose between equipment for manual or mechanical systems. Some operators will find operating costs are less with manual equipment, while others may reduce their operating costs with mechanical equipment. A cost analysis, of course, can help an operator decide which type of equipment will prove most beneficial.

AMS marketing researchers have developed a sample schedule of operating costs by combining taxes, electric power, depreciation, etc., with a labor rate of $1 an hour. In a sample analysis the operating cost would be 31 cents per case of eggs for equipment that can effectively operate at a maximum rate of 20 cases an hour.

The equipment in this instance consists of a machine for mass-candling, five in-line scales for separating eggs into size classes, and a carton conveyor belt. A plant with such equipment would operate with 4 employees, and process about 35,000 cases of eggs annually. A producer with a flock of about 60,000 birds might have a plant about this size, assuming 60 percent of the birds are laying eggs.

If a producer-packer of this size were to install manual processing equipment instead of the mechanical equipment just described, his initial cost would be roughly a tenth as high, but his annual operating costs would be much greater.

Using their sample cost analysis figures, AMS marketing researchers calculate that operating costs using manual equipment would be about 5 cents more a case than costs using mechanical equipment. The producer-packer could save a total of over $1,900 a year by using mechanical instead of manual equipment.

Actual expenses, of course, will vary for each operator, depending on his labor, electric power, and other costs. Higher labor costs than those used in these calculations ($1 an hour) would mean that the operator described would save even more than $1,900 a year by mechanizing his processing line. But higher equipment costs would reduce the savings.

The volume of eggs handled, of course, will also affect the profitability of mechanization. For instance, costs using manual grading equipment would be less—by 2 cents per case, using the same sample cost figures above—than mechanical equipment if the operator had only 30,000 hens, and processed about 18,000 cases of eggs annually. Annual operating costs with the manual equipment are $300 less at the end of the year than those with the mechanical equipment.

The same cost comparison figures can be applied to individual pieces of auxiliary equipment. For instance, if the producer-packer mentioned in the first example later added a mechanical packaging unit to his processing line, the sample cost figures indicate he would save a cent per case over the cost of manual packaging, or an additional $350 a year.

For a more detailed description of equipment and determination of costs, send for Marketing Research Report No. 424, "Automatic Sizing and Packaging of Eggs." Single free copies are available from USDA.

U. S. D. A. marketing researchers develop

ELECTRONIC SEED COUNTER

By HAROLD A. KRAMER

THE tedious task of counting seeds by hand, when inspecting and grading, has now been eliminated by researchers of USDA's Agricultural Marketing Service. They have developed a new device—an electronic seed counter—which can now count twice as many seeds in the same time it takes an experienced inspector to do it by hand.

The seed counter was originally designed to count peanuts, but it can also count a variety of beans and other seeds ranging in thickness from ⅛ inch to just under a half inch, and in length from 1¼ inches down to ⅛ inch. These dimensions would include seeds such as wheat, barley, corn, and pea beans, among others.

Savings in time and money gained through a single season's use of the machine could equal or exceed the initial cost of the unit. Savings on this scale are possible when five or more samples are counted per hour, up to 1,200 or more samples a year. The machine will pay for itself over a longer period, of course, when used less frequently, but it could still be considered a profitable time and money saver.

The unit is highly accurate, with only about 1 error in counting 10,000 seeds in laboratory and field tests. The unit can count from 250 to 750 seeds per minute, depending upon the size and uniformity of the seeds.

The counter is about the size of an office typewriter, although twice as heavy, at 85 pounds. Although this may be a hefty weight, the counter is compact and portable, and has been built for heavy use over a long lifetime.

The seed counter is easy to operate. A sample of seeds is poured in an open bowl which forms the top of the machine. When the machine is turned on, it vibrates somewhat like an electric massager.

The seeds get their "marching orders" from the vibrations, which make the seeds jiggle their way up a narrow spiral ledge, in single file, around the sides of the bowl. As the seeds reach the top of the bowl they slide down a miniature chute into a bag, box, or bowl placed beside the machine.

As each seed slides down the chute, it passes through the beam of an electric eye, which then signals electronic instruments in the machine to tally the seed on a gauge somewhat like the mileage gauge on an automobile. (The gauge on the seed counter would register about 1,000 seeds in the same time it takes to read to this point from the beginning of the article.)

This new seed counter is now in use with the Federal-State Peanut Inspection Service. And of course, greater use of the electronic seed counter can be expected as it becomes more widely known. The counter has recently become available from commercial manufacturers.

The author is a staff member of the Market Quality Research Division, AMS.

These 20 check-out stands are on the food side of a retail store which also features a hardware and tool section; ladies', men's, and boys' ready-to-wear; a pharmacy; a notions counter.

DISCOUNT HOUSES MAKE GAINS IN FOOD RETAILING

By MARTIN LEIMAN

Most discount houses are modern and attractive but they still operate with the appeal of lower prices. This image is projected by mass displays and by marked reductions for some items.

. . . discount houses now sell about $2 billion worth of food a year. Some sources believe that this figure may quadruple in the next four years.

FOOD retailers are keeping on their highly competitive toes these days. A new development in food retailing seems to be under way: Food is now being sold by discount houses.

According to specialists of USDA's Economic Research Service, the number of these houses is increasing and the volume of food they sell is growing even more rapidly. Although this type of retailing has so far appeared in relatively few trading areas, observers in the food trade estimate that discount houses now sell about $2 billion worth of food a year. That's about 4 percent of total retail food sales. Some people believe that this figure may quadruple in the next four years.

This new phase of food retailing has developed in several different ways, with the initiative sometimes taken by firms in the food business, sometimes by general merchandise discount houses.

A food chain may buy control of a general merchandise discount house and add a food department, or it may enter into a lease agreement to run the food department of a discount house.

A general merchandise discount house may establish its own food department, it may lease a food department to someone else as a concession, or in the case of a new firm, it may include a food department as part of its plans.

Several chain enterprises have gone into food discount merchandising on a rather extensive scale. Several others are conducting pilot operations; testing locations, pricing different qualities of merchandise, and studying other factors before making a decision to enter or stay out of discount merchandising.

There seems to be no consistent pattern to food departments in discount houses. Some limit themselves largely to items with a rapid turnover. But others carry a greater variety and assortment of food items than conventional food supermarkets. Usually, there is one common characteristic they share—bigness. Annual sales for food departments often exceed $2.5 million. And in many discount centers the food department accounts for a fourth of the total dollar sales volume.

The success of discount merchandising probably is founded on the image of "I can get it wholesale." Even though most discount houses today are modern and attractive, they still operate with the appeal of lower prices. This image is projected in food departments by mass displays and marked reductions in prices on certain items.

Retailers who operate both conventional and discount houses report that mass displays produce more sales in discount houses than in conventional supermarkets. They also indicate that —though the shopper may have been drawn to the discount house by its "bargain" image—once she starts through the food department aisles, she is not aware of, or concerned with, prices for individual items.

While loss leader merchandising is part of the food operation of discount houses, there is no evidence to indicate that a food department as a whole is operated at a loss to generate traffic and sales for the other departments.

SEVERAL factors combine to indicate that the discount house supermarket could have lower operating costs than conventional supermarkets. First, the use of less pretentious decor and fewer services such as "Kiddie Korners" and the special service meat window tend to reduce costs.

Second, consumer purchases in discount houses tend to be larger, so costs associated with each transaction are a smaller proportion of sales. Third, displaying merchandise by cut-case or traypack methods, which seems to be more acceptable to discounters than to conventional supermarket operators, could help lower labor costs. Fourth, the discount house supermarket may share some overhead costs with other occupants of the building. Fifth, many nonfood items which are slow movers and require high markups are not stocked.

The tenor of remarks by various food trade spokesmen at conventions and in trade publications, is that discount houses are here to stay. They are a means of low-cost mass distribution. And they will show phenomenal growth. Many spokesmen point out that discount houses are filling the gap left by supermarkets as they moved from low cost distribution to higher cost practices.

ON the other hand, there are operators of conventional supermarkets who have reservations about discounting. They question whether consumers in large numbers will be attracted to discount supermarkets over a long period of time; whether food discount operations will be profitable; and they suggest that the leased department arrangement is a weakness that might contribute to failures of discount houses.

At this stage of our knowledge of the discount house field and consumer attitudes, images and reactions, these developments appear likely:

1. Discount houses generally will attract consumers who are willing to sacrifice service for low prices.

2. Competition in the retail food field will grow as some of the large variety and department store chains establish discount units with full-scale supermarket operations.

3. As price competition between discounters and conventional supermarkets intensifies, both will be forced either to operate more efficiently or to exert price pressure back to growers and processors.

4. As supermarket firms appraise the implications of discount houses and experiment with different forms of discount operations, there will be a slowdown in the construction of new conventional supermarkets.

5. Discount houses will move into trading areas of low population density, where retail development has been slight, since they attract people from a much larger trading area than conventional retail outlets. This will affect small wholesalers and retailers in nonurban areas, who have been relatively free from this kind of competition.

The author is a staff member of the Economic Research Service, USDA.

These Australian apples will be sent to the mainland and a wide export market, which includes Sweden, Germany, Singapore, India.

Australia Cuts into U. S. Export Markets for Farm Products

UNITED STATES and Australian exporters of farm products are apt to share, more and more, the same overseas markets and the same marketing problems in the international competition for agricultural trade.

Since 1955, Australia has tried to reduce its dependence on the United Kingdom as its chief market for farm exports. As a result, larger supplies of Australian wheat, rice, meats, fruits, and other farm commodities are moving into many foreign markets that are importing substantial quantities of the same products from the United States. And these increases are taking place in countries where we hope to expand our markets.

These are some of the findings made by Mary E. Long of USDA's Economic Research Service in a recent study of Australia's agricultural production and trade policies and their effects on U.S. farm products.

Since Australia signed its present trade agreement with Japan in 1957, for example, Australia's exports of wheat to that market have gone up from an annual average of 108,000 metric tons in 1953-56 to 357,000 metric tons in 1960.

Although U.S. sales did not increase, holding steady in the late 1950's at about 883,000 metric tons a year, in 1960 they were still more than twice Australia's.

Australia has an assured market for wheat in West Germany under a 1955 trade agreement. This tends to limit U.S. wheat sales even when price and quality favor the U.S. product. Both countries sold less wheat to West Germany in 1960 than in the mid-1950's. However, U.S. exports of 180,000 metric tons in 1960 were still slightly higher than Australia's shipments of 120,000 metric tons. Other competitive markets for U.S. and Australian wheat are the United Kingdom, India, Pakistan, and Southeast Asian areas, Rhodesia-Nyasaland, and the Republic of South Africa.

The United Kingdom is still Australia's first market for most farm products, though its relative importance has decreased since World War II. The U. K. now takes 30 percent (by value) of Australia's total agricultural exports, down from 55 percent in prewar years. In the British market, as in most Commonwealth countries, nearly all Australian farm products have duty-free entry, marketing guarantees, and other trade advantages over U.S. competitors.

U.S. and Australian rice compete mostly in the U. K. and Canada. U.S. exports to Canada fell from 25,000 metric tons in 1954 to 11,000 tons in 1960. Australian rice, though a smaller part of Canadian imports, has been increasing its share of the market. Averaging only 747 metric tons in 1952-56, Canadian rice imports from Australia climbed to more than 6,000 metric tons in 1960.

Fruits compete primarily in Britain and Canada, although West Germany, Sweden, Singapore, and Hong Kong are growing competitive outlets for fresh fruit. About 60 percent of Australia's fresh apples and pears and 90 percent of its canned fruit pack, some 3 million cases, go yearly into the British market. U.S. canned fruit shipments to the U. K. in the last few years have averaged about 1 million cases.

Trade patterns for these and most other farm exports show that the U.S. and Australia contend largely for markets in the British Commonwealth and the European Common Market.

Variety meats compete chiefly in the U. K. and continental Europe; cattle hides and kipskins in Western Europe; tallow in the West Indies Federation and the Republic of South Africa, which still has trade ties with the Commonwealth. Oats are competitive in West Germany and the Netherlands; barley in the U. K., West Germany, and Belgium-Luxembourg.

In view of this trading pattern, both the U.S. and Australia are watching developments in the European Common Market with some concern. The Market is now working out a common agricultural policy to remove all farm trade barriers among member countries. At the same time, the new farm policy will set up a common tariff on farm imports from nonmember suppliers. The purpose is to improve the efficiency of their farm production, raise the income of farm operators, and promote trade within the Common Market.

Present members of the Common Market are West Germany, France, Italy, the Netherlands, and Belgium-Luxembourg, with Greece an associate. Britain has applied for membership. Denmark and Norway may join. If the Market expands to cover most of Western Europe and the new farm policy succeeds, imports of many farm products from the U.S., Australia, and other nonmember countries may decline over a period of years. If Britain joins the Market, it may ultimately have to abandon its Commonwealth preference system.

How this would affect Australia's trade with the U. K. is not yet known. Unlike the United States, Australia depends on farm exports for about four-fifths of its foreign exchange earnings. These earnings in turn pay for imports of heavy machinery, petroleum, and other raw materials needed for industrial growth.

Thus, both the United States and Australia are currently looking for new and expanded markets and have already stepped up promotion activities abroad to increase their exports of farm products.

For more information on Australia's agricultural production and trade policies and their effects on U.S. farm exports write to Information Division, Economic Research Service, USDA, and ask for FAE Report No. 3.

Bulk handling techniques are developing rapidly and many areas bulk handle grain from the crop to local silos at railheads. Most of the machinery is made in Australia.

Above left, a 14-year old Pullar clingstone peach tree. Right, bulk-loading wheat from the elevated gallery installation at Fremantle. Below, an Australian-owned factory which employs European experts and produces many different types of cheese.

The nine sections of the exhibit have been so designed that they can be adapted to the shape of available floor space without disturbing the continuity of the exhibit. The structure covers about 1,000 square feet of floor space and is 8 feet high.

THE MEAT MIRACLE

Meat, largest single item in the American food budget, has never been so good, so clean and wholesome, and available as now.

Now, USDA has available for use throughout the Nation, "The Meat Miracle," a colorful and highly interesting exhibit which has found an instant cross-country demand. It is designed to tell consumers the full story of our abundant meat supply, its production, distribution, many nutritious qualities, how it's marketed, and the bargain that meat is today. The exhibit also includes a look ahead, toward tomorrow's meat supply.

"The Meat Miracle" exhibit made its auspicious debut at the International Livestock Exposition in Chicago last November. It's available for showing at regional, State, and county Fairs, at all types of livestock shows, food and home shows, conventions of interested groups, and at similar shows where consumers gather.

Sponsors of "The Meat Miracle" exhibit pay shipping costs, provide free exhibit space, and furnish labor and services in setting it up and dismantling it. Requests for scheduling this exhibit, and all inquiries regarding its availability, should be sent to Exhibits Service, Office of Information, USDA, Washington 25, D. C.

A special exhibit for USDA's Centennial Year

Mrs. Orville Freeman, wife of the Secretary of Agriculture, presided at opening of exhibit in Washington. Here she shows guests a display on inspection services.

Si Smith, Administrator of AMS, learns how to cut a steak out of a blade roast. The teacher is meat specialist Kay Nawn.

USDA, in its marketing research program, looks for ways to reduce costs of marketing food. Part of this research shows how the meat dollar is split up.

An hour of factory wages will buy 37 ounces of round steak in U.S.A., 18 ounces in England, 7 ounces in France, and only 4 ounces in Russia.

In this booth, one can tell if he is good at grading beef cuts.

Effect of the Pilot Food Stamp Program on

RETAIL FOOD STORE SALES

Marketing research studies in test areas indicate that food stamp participants did use the increased purchasing power provided by coupons to buy more and different kinds of food.

By ROBERT E. FRYE *and* HUGH M. SMITH

BOOSTING retail food sales was one predicted result when the Department of Agriculture began the Pilot Food Stamp Projects in June 1961.

As part of an overall evaluation, researchers in USDA's Economic Research Service set their statistical yardsticks against the Food Stamp Program and its effect on food sales in retail stores in the 8 test areas.

For evaluation purposes, 368 sample retail stores were selected in the pilot areas. The eight areas are: the city of Detroit, Michigan; Franklin County, Illinois; Floyd County, Kentucky; the Virginia-Hibbing-Nashwauk complex, Minnesota; Silver Bow County, Montana; Fayette County, Pennsylvania; and McDowell County, West Virginia.

Sales data were collected during April-May 1961 before the Program began, and September-October 1961 after the Program was operational in all pilot areas.

Data collected showed that dollar volume of food sales in the sample stores averaged 8 percent greater with the Food Stamp Program in operation than before. The range of increase was a low of 5 percent in Detroit to almost 13 percent in Montana.

Between the two test periods, September-October 1961 and April-May 1961, meat sales averaged over 7 percent higher. Produce sales also kept pace with an average increase of nearly 8 percent in all areas. However, produce sales increased in only half the

. . . dollar volume of sales in sample stores averaged 8 percent higher with Program than before.

areas, ranging from 29 percent *greater* in the Minnesota area to 6 *percent less* in Franklin County, Illinois.

The variability of produce sales might be attributed, the economic researchers report, to differences among areas in the availability of home-grown produce, prevalence of roadside stands, door-to-door or other vendors—sources other than retail stores.

In rural Fayette County a separate study of household consumption showed that the value of fresh produce consumed by families in the Stamp Plan increased 73 percent for fruits and 67 percent for vegetables on a per capita basis. Similar gains were found for participating families in Detroit. These findings also indicate that during the September-October test period considerable produce was bought from sources other than retail food stores.

Sales of items in the "grocery and other" category increased quite a bit after the Food Stamp Program went into effect. Among the areas, increases ranged from over 5 percent to around 12 percent, for an average of 9 percent. The increase for this group of foods was greater than that in meat, produce or in total sales.

The "grocery and other" class, including dry groceries, dairy, and some frozen items, accounted for over 60 percent of total sales volume in sample stores.

FINDINGS that the Food Stamp Program resulted in increased retail food sales are supported by household food consumption surveys made in two areas of Detroit, Mich., and rural Fayette County, Pennsylvania.

On a per capita basis, the money value of foods consumed by families participating in the program was up about 34 percent in Detroit and 9 percent in rural Fayette County compared to the April-May period. These families also showed significant increase in the consumption of meat, produce, and selected grocery items.

Merchandising practices in stores participating in the Food Stamp Program were also evaluated by the researchers. While a limited amount of advertising and poster material was directed to stamp users, retailers appeared to have taken the position that stamp customers could be best attracted by treating them as regular customers.

While sales averaged higher for participating stores in total, changes in sales were also noted according to size of stores. In each of the 8-test areas, sales were up for each store-size group.

Small stores in each of the areas increased total sales an average of 6 percent. At the other end of the scale, large stores increased sales volume by an average of 7 percent. Largest gains were noted in the medium and very small stores where sales increased 11 and 15 percent respectively over the pre-stamp test period.

For all test areas, the value of food coupons accepted in sample stores represented 6 percent of total sales volume during the September-October period, but varied inversely with the size of the store and ranged from a low of 5 percent in large stores to a high of 12 percent in very small stores.

This finding, smaller stores receiving a larger percentage of total dollar volume from food stamps, was not expected by many retailers before the tests began. It was thought that since stores offering credit—most of them medium and small—couldn't accept food coupons in payment for back bills, the credit shoppers would go elsewhere. However, the general increase in sales shared by most sample stores indicates that store changing by coupon users was at a minimum.

The researchers also observed customers with and without food stamps in sample stores in Fayette County, Pennsylvania, to see if there were any changes in general buying patterns. They found that for each 100 customers observed, the number buying fresh milk, butter, shell eggs, ice cream, cake, and pastry mixes increased slightly in the September-October period.

In terms of quantity purchased by Fayette County customers observed, increases ranged from slight to substantial for margarine, eggs, ice cream, meat, bread, flour, and cake and pastry mixes. Purchases of all other items counted by the researchers were steady to slightly lower.

It was also found that the Pennsylvania shoppers using food coupons spent, on the average, more in each transaction than nonstamp customers. Food stamp shoppers spent an average of $9.25 per transaction while nonstamp customers spent $5.70. This wide difference in expenditure per transaction reflected the tendency of coupon users to concentrate their food purchase within the week of, or the week following issue. Average amounts spent by each customer observed—including stamp and nonstamp shoppers—increased about $1.75 per transaction after food coupons were introduced.

The Food Stamp Program has many facets and many goals. And in at least one area—impact on retail food store sales—research indicates that food stamp participants did use the increased purchasing power provided by food coupons to buy more and different kinds of food.

The authors are agricultural economists in the Market Development Branch, ME, ERS. Copies of the complete report, AER-8, are available from the Division of Information, Agricultural Economics, USDA, Washington 25, D. C.

Some background information:

THE Food Stamp Program is aimed at supplementing and improving the diets of needy families and increasing the consumption of our farm food products. It is administered by the U. S. Department of Agriculture. State welfare and local governmental agencies are responsible for certification of applicants and issuance of coupons.

Food coupons are issued to needy families upon application and certification as to eligibility. Participating families having income are required to buy some coupons. They are then issued enough extra ones to permit them to buy a more adequate diet.

Families without income are given the coupons.

Grocers who are authorized to do so then accept the coupons as money. They can redeem the coupons at commercial banks or use them to pay authorized wholesalers.

The food coupons cannot be spent on cigarettes, liquor, soap, and other nonfood items. Also excluded are packaged imported items and coffee, tea, cocoa, and bananas.

In the test areas the Stamp Plan replaces a program of direct distribution of food to needy families, by which food, acquired by the USDA under market stabilization programs, was donated to States for distribution to eligible families to supplement what they were able to buy. Under the Stamp Program, participants are given increased purchasing power rather than direct donations of food.

PRICE WARS IN CITY

PERHAPS there is no aspect of marketing which looks so different to buyers and to sellers as a price war. This is certainly true when retail price wars break out in city milk markets. Housewives suddenly find that they can buy milk for their families at lower prices. The price cuts may be fairly moderate—2 or 3 cents a quart—or quite spectacular. For instance, in one city during a recent price war, the price dropped from 25 cents to 10 cents a quart.

But the same phenomenon which brings joy to consumers may seem like a nightmare to the dealers involved. There is less profit for them and, frequently, some or all may operate in the red during the price war. Traditional ways of doing business are upset and some dealers may even be forced out of business altogether.

Researchers in USDA's Marketing Economics Division have been looking into some of these milk price wars. They want to know more about them. Under what sort of competitive conditions in milk markets are they likely to break out? What are their longer run impacts upon consumers, milk distributors, and dairy farmers?

Price wars—conceived of broadly as any outbreak of retaliatory price-cutting —are by no means all alike. They get started in different ways. They vary in duration and intensity And their outcomes may also be quite different.

Seven kinds of milk price wars have been identified on the basis of their predominant characteristics. Of course, price wars involve a complex of actions and interactions among milk distributors, so that a single price war may have features of more than one kind.

The functions of retaliatory price cutting in the milk business are brought out in these different kinds of milk price wars:

1. A Phase of Rough Competition. This kind of price war is fairly common in some of the big city markets where the number of milk dealers is large and where competition for store and restaurant accounts may become extremely aggressive. An illustration of this kind of price war is one on the lower East Side of Manhattan in June 1961. In this neighborhood of a square mile or so, 20 or more milk dealers compete. In this instance, a store operator served by one dealer became dissatisfied with his arrangement and shifted his business to another milk dealer.

The first dealer retaliated by lowering his wholesale price to a nearby store which promptly reduced the price to its customers. The price war spread quickly. Store owners within a block or so of the first store (the stores are small and numerous in this area of New York City) called their dealers and were told they could meet this competition. Soon stores many blocks away (and the dealers who supplied them) became involved in the price war in much the same way.

In a few days this retaliatory price cutting had brought the price of milk sold out of stores down from 24 cents to 10 and 8 cents a quart. Altogether this price war lasted 10 or 12 days. Then, as suddenly as it began, it was over. On the same morning, drivers informed their store customers that the wholesale price would go back to normal. So the store prices were adjusted accordingly.

Just what settlement was reached, if any, by the original disputants we do not know. We only know that there was a dispute which touched off a price war—losses of participating dealers were considerable—and that it came to an end when the participants considered that they had had enough and were able to coordinate their actions to restore peace.

2. An Incident to Entry. Where prices are administered by competitors, whether individually or collectively, the entry of new firms may be accompanied by price cutting. If the established firms defend their shares of the business in the market by counter measures, including price cutting, a price war is in progress.

A few years ago, a milk dealer sought the business of chain and independent stores in a number of small cities and towns in Missouri and Illinois. The dealer was organized for a highly mobile and flexible distribution to stores of milk in paper cartons. He sought volume based upon substantially (2 to 3 cents a quart) lower prices out-of-stores than on milk delivered to homes. This action was in conflict with the going structures of prices in most of the cities before the entry of this firm. Retaliation by the established firms in these cities involved both price and nonprice actions.

This series of price wars subsided when the entering firm became established in these markets. The new price structure in these cities incorporated greater differentials between store and home delivered milk than had previously existed but not always as great as the entering firm had tried to establish.

3. An incident to Innovation. The introduction of paper containers and of larger-size containers has, in many markets, been accompanied by price-cutting, especially on milk sold through stores. It may be observed that the introduction of gallon jug operations in city milk markets (frequently accompanied by price wars) not only has had a tenacious way of gaining a place in these markets, in spite of opposition, but also acts as a catalyst in stimulating a greater use of half-gallons and paper containers. This entire complex of innovations tends to encourage a shift from home-delivered milk to store sales.

4. A Disciplinary Device. Retaliatory price cutting as a disciplinary device has a part in some phases of many price wars. It is typically an effort by dealers, individually or collectively, to enforce going structures of prices and marketing practices or to repel unwelcome forms of innovation. To the dealer or dealers who make this effort, it may appear as an assumption of responsibility for protecting the stability of the market.

The successful application of this form of price cutting may rest upon the substantially greater financial resources of those applying it in relation to the resources of those being disciplined. It has, of course, serious and obvious disadvantages to those applying it. It is costly in direct proportion to the size of a dealer's operations in the area of business to which the price cut is applied. A small dealer, although he has much less in resources with which to

MILK MARKETS

By EDMOND S. HARRIS

fight a price war, may be able to inflict serious financial wounds on his larger adversary. Thus, compromise and "reasonableness" play a larger part in the policies of milk dealers than might otherwise be the case.

5. A Device for Reapportionment of the Market. A price war may afford a dealer a chance to gain additional business which is more in line with the growth of his facilities or an opportunity to compensate for losses which have been incurred elsewhere. Thus in one city market, a large dealer was alleged by his competitors to have become more aggressive in seeking new business after the loss of a large chainstore account. The usual norms of competition were said to have been violated by excessive discounts, by gifts of free equipment, and by the solicitation of accounts which ordinarily would have been "respected" as being in the territories of rival firms. Sporadic outbreaks of price wars were said to have been due to this intensified competitive situation.

The price structure became more firmly established again when the business of the market was reapportioned more appropriately to the needs and relative powers of the competing firms.

6. An Incident to Disposal of Excess Supplies. Associations of dairy farmers are sometimes hard pressed to dispose of their members' milk at satisfactory prices. In some markets, producer associations have set up their own pasteurizing and distribution facilities in an effort to increase their members' share of fluid milk sales. It is in this type of situation, at times when supplies of members are large in relation to an association's fluid milk sales, that there may be a strong incentive to try to increase their sales by various means, which includes price cutting.

This, of course, may risk retaliatory action by other milk distributors—and the end result may be a price war.

7. A Phase of Reorganization of Marketing Practices. There are occasions when a series of price wars is the instrumental mechanism for bringing about far reaching changes in the ways of distribution in city milk markets. An example of this kind of price war occurred in the area of Dayton, Ohio. It continued sporadically, affecting different phases of the competition among dealers at different times, during a period of more than five years, beginning in 1955.

We may summarize the situation in Dayton prior to the price wars, as follows: (1) The market had experienced a long period without serious price disturbances; (2) certain aspects of technological lag had been noted in this market before the wars started—sales in single quart containers predominated and paper containers were little used; (3) home delivered sales were more than three times the amount of milk sold through stores; and (4) the price structure offered little incentive to sales out-of-stores or to sales in large-size containers.

The price wars in Dayton were triggered by the entry of a new firm, organized for the specialized distribution of milk through stores in half-gallon paper containers. Lower wholesale prices and volume discounts on milk were offered to stores, these prices conflicting with prevailing practice in the Dayton market.

Local dealers retaliated by price cuts, by introducing paper containers, and by offering larger discounts or other concessions to stores. Each move tended to upset some aspect of former competitive relations. Long after the new dealer ceased to be an important factor, price wars continued intermittently among the older established dealers. And the process of change in distributive methods and practices also continued.

As the price war conditions abated somewhat, a number of significant changes in the Dayton market were apparent: (1) Total sales of milk had increased, in part attributable to lower prices offered to consumers; (2) store sales predominated in amount over home-delivered sales; (3) half-gallon and gallon containers had found an important place in the market; (4) paper-type containers were also widely used; and (5) a differential, comparable with that in most other city markets, between the price of milk sold out-of-stores and of milk delivered to homes was well established.

ALL of these different kinds of milk price wars have one thing in common—they are part and parcel of the competitive environments in which they occur. Indeed, in some milk markets, at certain times, it is hard to conceive of how a new firm may get started or how a new way of distribution can be introduced without touching off some kind of price disturbance.

This offers some clue to the evaluation of suggested remedies for milk price wars—government price controls, fair-trade laws, and so forth. Care must be taken that the cure is not worse than the disease. The competitive vitality of the milk industry is important and is worth preserving. It is the mainspring of cost and price reductions—the very essence of progress in the milk industry. And, it is this progress which is compatible with the long run interests of consumers, milk distributors, and dairy farmers.

The author is a staff member of the Economic Research Service, USDA.

Scott Frear, Manager, Quality Control, at the University or Maryland, writes specifications for poultry and eggs with an assist from poultry products grader Ora E. Hopple. At right, Mr. Frear, Robert Walker, and Clayton Plummer preparing an invitation to bid.

How a University Gets Quality Assurance

By A. ELIZABETH HANDY

Food service and purchasing personnel at the University of Maryland are mighty particular when it comes to ordering and buying food for some 5000 students who must rely to a great extent on proper nutrition to stay fit and keep "on their toes" academically.

"Assurance of high standards of quality in the food we buy is a prime concern to us," says Clayton R. Plummer, who heads up the University's purchasing department; "particularly so, since we must serve some 15,000 meals every day throughout the college year."

To be assured of high quality in the poultry and eggs it purchases, the University uses the Agricultural Marketing Service's Acceptance Service for poultry and eggs. Designed especially for quantity buyers of food, such as schools, restaurants, hotels, and hospitals, the Acceptance Service is available to both private and governmental buyers throughout the country.

Briefly, this is how it works:

The buyer notifies the nearest USDA poultry grading area supervisor or the Washington, D. C., office of the AMS Poultry Division that his institution plans to use the Acceptance Service. On request, Government graders will assist the buyer in developing clear-cut specifications for poultry and eggs based on the institution's specific needs.

"Specifications for food served in the University dining halls must be simple, in 'black and white,' and to the point," says Mr. Plummer. "About once a month, a committee, comprised of members of the University's purchasing department, dietitians, dining hall managers and others concerned, review our specifications for food purchases to make certain they will assure us of the specific kind, amount, and quality of items we need."

Once specifications are written, an institution using the Acceptance Service prepares an invitation to bid. For quality control, the buyer states that all deliveries are to be examined by a USDA grader and be officially "accepted" as meeting the specifications.

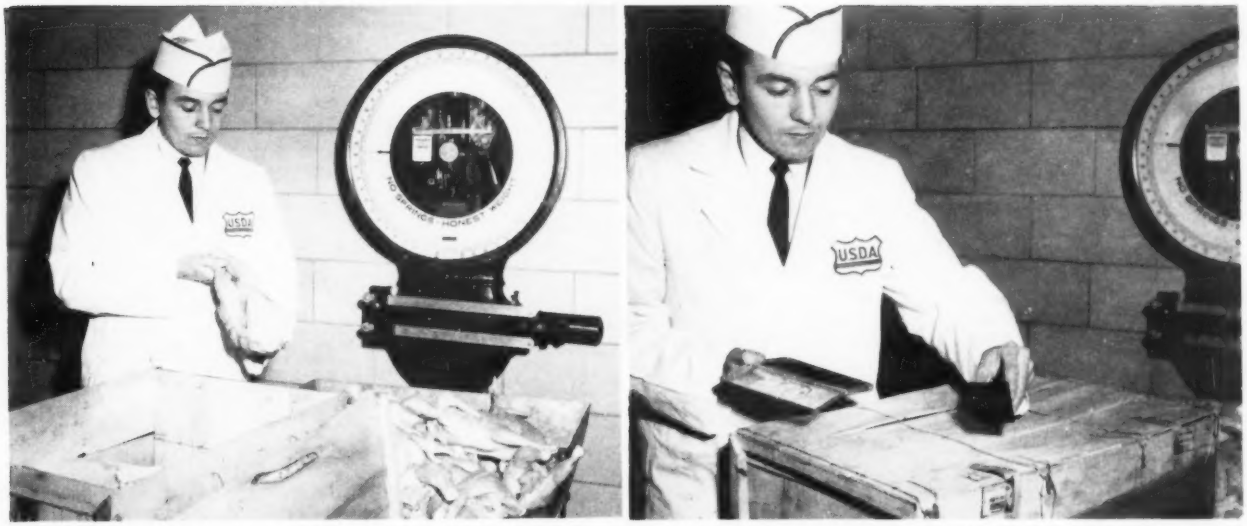
Competitive bids are obtained by the buyer from several suppliers, and the contract awarded. "One advantage of using the Acceptance Service," Mr. Plummer stated, "is that we are able to invite bids from a greater number of suppliers. The Service gives us confidence that those suppliers whose bids we accept will be able to meet our specifications."

"If a supplier fails to meet our specifications," Mr. Plummer said, "we consider how reliable he has been before discontinuing business with him. During the three years or so that we have been using the poultry and egg Acceptance Service, however, we have experienced only one such failure. In that instance, a vendor supplied us with eggs that had been stored, rather than the fresh eggs we had ordered. This, of course, was detected by the Government grader making the acceptance examination prior to delivery of the product, so the eggs were shipped back to the supplier."

The nominal charge for use of the Acceptance Service may be borne by either the buyer or the supplier, according to whichever is specified in the contract. The University of Maryland specifies in its invitations to bid that this cost will be borne by the successful bidder.

The vendor supplying an institution such as the University notifies the USDA grader when the order is ready for delivery. Following a careful examination of the products, to be sure that they meet the grade and other contract requirements, the containers are sealed, and the grader marks each package with the acceptance stamp. He also prepares a certificate, stating that all requirements have been met, and attaches this to the invoice accompanying the delivery to the institution.

Marketing specialists in the Poultry Division's Grading Branch recommend that buyers' specifications for ordering poultry should include the kind, type, class, size, and grade required. Kind refers to the species, such as chickens,



Ora Hopple examines poultry before it is delivered to University to see that it comes up to specifications ordered. Once the product has been examined for contract requirements and officially "accepted" the grader marks the shipping container with acceptance stamp.

in the Poultry and Eggs It Buys

turkeys, and ducks, while the type indicates whether the poultry is to be chilled or frozen. The class refers to such physical characteristics as age and weight, which determine the cooking method necessary for maximum flavor and tenderness. Examples of chicken class names are "fryer," "roaster," and "stewing chicken."

Size indicates the weight of individual birds. Grade refers to quality, and is based on the shape or conformation of the bird, the amount of fleshing or "meatiness," the finish or amount of fat covering, and the appearance—that is, freedom from such defects as cuts, tears, and discolorations.

Grades for ready-to-cook poultry are U.S. Grades A, B, and C and procurement Grades I and II.

U.S. Grade A poultry generally has a higher meat yield. U.S. Grade B and C poultry may be quite satisfactory when appearance is not so important, such as when it is served in casseroles, salads, or fricassees.

Quantity buyers who are primarily concerned with the meat yield of poultry rather than its appearance may be interested in the new Procurement Grades I and II. While these grades have not yet come into general use, they probably will be most useful in buying turkeys and stewing chickens.

U.S. Procurement Grade I would yield as much meat as U.S. Grade A birds, but the fat covering and conformation may be comparable to that of Grade B. In addition, some trimming is permitted, and wings or parts of wings may be missing. U.S. Procurement Grade II has a somewhat lower yield, and trimming of up to 10 percent of the meat is permitted. Half carcasses may be included in this grade if the meat yield represents half of the total.

In purchasing shell eggs, buyers can write specifications very simply by using the U.S. weight classes and U.S. grades.

The official weight classes are based on the minimum weight per dozen and are called: Jumbo—30 oz.; Extra Large—27 oz.; Large—24 oz.; Medium—21 oz.; Small—18 oz.; and Peewee—15 oz.

The highest grade eggs—Fresh Fancy, or U.S. Grade AA, and U.S. Grade A—are suitable for all types of cooking, but are especially preferred for frying, poaching, and cooking in the shell. For other uses, eggs of U.S. Grades B and C are perfectly satisfactory and may afford a saving.

In purchasing egg products, buyers can specify that packages of frozen and dried egg products be stamped with the USDA "Inspected Egg Products" shield. This mark assures that the egg products were prepared from wholesome eggs and under sanitary conditions, in accordance with USDA's "Regulations Governing the Grading and Inspection of Egg Products."

Institutional buyers who haven't yet discovered the value of the Acceptance Service might do well to consider the possibility of utilizing it.

Robert Walker, Mr. Plummer's assistant in the University of Maryland purchasing department, sums up the value of the poultry and egg Acceptance Service in this way:

"To us, this Service is an insurance that we are getting the quality products we need in order to place the best kind of meals on our dining hall tables."

Information on the Acceptance Service or requests for Service may be obtained from the Poultry Division, AMS, USDA, Washington 25, D. C., or from the supervisor of the following area offices: Customs Building, 2nd and Chestnut Streets, Philadelphia 6; U.S. Customs House, 610 S. Canal Street, Chicago 7; Iowa Building, Des Moines 9; 180 New Montgomery Street, San Francisco.

A leaflet, "USDA Acceptance Service for Poultry and Eggs," AMS-393, and information about a filmstrip and slide series on the Service are also available from the above offices.

Miss Handy is a Home Economist in the Standardization and Marketing Practices Branch, Poultry Division, Agricultural Marketing Service.

U.S.D.A.
marketing researchers
develop better methods for

Protecting Stored Farm Products from Insects

STORED PEANUTS

MAN and insect compete in an endless contest for the use of millions of dollars worth of food and other farm products. In many of these contests man can beat his many-legged competitor because of highly successful insect controls developed by marketing researchers of USDA's Agricultural Marketing Service.

At stake recently were millions of bushels of farmers' stock peanuts. New harvesting methods that increased the number of broken shells and longer storage periods resulting from earlier harvesting had greatly increased the danger of insect infestation. To prevent insect damage to these peanuts, marketing researchers Herbert Womack, Leonard M. Redlinger, and Delman W. La Hue, of AMS' Tifton, Georgia, field station, were given the job of developing procedures for controlling the hungry insects.

Commercial warehouse operators, in cooperation with the marketing researchers, sprayed malathion on the entire lot of peanuts passing over a conveyor into storage. This bulk treatment makes sure that all of the peanuts get protection from insects, regardless of their position at the bottom or in the center of the bins during storage. Malathion was sprayed on the surface once a month during the storage season.

The marketing researchers took samples of the peanuts when they were removed from the warehouses. Each sample weighed four pounds. The treatment was so effective that an average of only about one insect for every three samples was found. And only a tiny fraction of one percent of the peanut kernels in the hulls was damaged by insects.

More insects and damaged kernels were found (although the damage was still slight) when the peanuts received the same initial treatment followed by only one surface spraying during the storage season. There was no protective chemical on the hulls when these nuts were removed from storage, while those that received regular monthly spraying were still well protected by the chemical at the time they left storage. The malathion residue was well within the established tolerance of 8 p.p.m. on the peanuts with the shell removed, as set by the Food and Drug Administration.

Other peanuts were sprayed with synergized pyrethrum when they entered storage. Additional weekly applications were given during the first month; then spraying was continued at biweekly intervals.

When these peanuts were removed from storage, only a minute trace of the protective chemical was found on the hulls. And about three times as many damaged kernels and insects were found as in the combined total of the two groups sprayed with malathion.

In all tests, peanuts were stored in warehouses that had been thoroughly cleaned and sprayed with insecticide beforehand. And all the peanuts were sprayed at the rate of 5 gallons of finished spray per 15 tons of peanuts at the time they entered storage.

In addition—in the most successful test runs—malathion was sprayed monthly at the rate of 1¾ pounds of 25-percent premium-grade wettable powder in 2 gallons of water per thousand square feet of surface area. The surface was leveled at the time the peanuts entered storage so that the spray would cover the top layer of peanuts evenly.

STORED RICE

RICE—for centuries one of the chief vertebrae in the spine of civilization—can now be stored with less hazard of insect contamination.

A good share of the credit belongs to marketing researchers from the U.S. Department of Agriculture's Stored-Rice Insects Laboratory at Houston, Texas, and to rice warehousemen for their joint efforts in developing an effective method of controlling insects.

Heretofore, the rice industry had used methyl bromide to effectively control insect infestation in storage. The Miller Amendment to the Food, Drug and Cosmetic Act, however, established a maximum permissible tolerance of 50 p.p.m. of inorganic bromides on rice. Since as few as three fumigations with methyl bromide could exceed this residue level, it was essential to find a replacement for this chemical.

The Agricultural Marketing Service researchers were faced with the problem of finding a fumigant which would effectively prevent infestation and still not exceed established tolerances. They conducted tests with liquid hydrogen cyanide from 1956 through 1958 to determine the effectiveness of different concentrations of this gas.

Insect contamination of milled rice necessitates a complete recleaning before sale, and introduces the possibility that it may be lightly infested, with a resulting loss in prestige to the mill owner. Complicating the problem even more, milled rice is often stored near rough rice, rice bran, or other grain which may well be infested. Tarpaulins were used to cover the stacks of bagged rice after they were fumigated.

AMS researchers found that, for the

(*Continued on page 24*)

How well does a fumigant do its job? AMS marketing researchers are always trying to answer this question. Here is a typical field test aimed at learning how well a particular fumigant distributes itself in grain bins.

Grain pests are placed in two insect cages which are inserted into the cloth bag. An AMS entomologist tapes in insect bags to plastic tubing and lowers tubing and insects into grain bin.

The tubes are connected to an instrument that draws measured amounts of the atmosphere from different parts of fumigated grain bin. At end of test, cages are removed and a count is taken of the number of dead insects. Samples of the atmosphere are taken back to the laboratory where marketing researchers measure the amount of fumigant taken from different parts of the grain bin.

Let's Have 185,000,000 Milk Drinkers

By BONNIE P. SMITH

THIS IS A BIG YEAR for milk and milk products! Production reached a new record of 125.5 billion pounds last year and promises to continue rising in 1962 with a steady increase in rate of milk production per cow.

During 1962 this basic and important food is getting well deserved attention at every level of government up to the President of the United States. In his keynote address at the Milk and Nutrition Conference in January, President Kennedy stated that "If we are to be a vigorous and vital nation as we all desire, then of course we must depend on consumption of a balanced diet. And milk must be a part of it."

Recognizing the vital contribution of milk and its products to a steady improvement in American diets, Secretary of Agriculture Orville L. Freeman leads the U.S. Department of Agriculture in giving its full support to the dairy industry's 26th celebration of June Dairy Month.

There are many people in this country who could greatly improve their diets by consuming more milk. In fact, if the people whose diets do not furnish the amounts of calcium recommended by the Food and Nutrition Board, would make up the difference with milk, the dairy industry would need to market an additional 10 billion pounds of milk a year.

Secretary of Agriculture Orville L. Freeman accepts a glass of milk from Miss Bonnie Sue Houghtaling, "Dairy Princess," during her visit to his office in 1961.

Much of the Government support of dairy industry efforts to bring consumption into line with rising production is coming from the Agricultural Marketing Service programs—the Plentiful Foods Program, the National School Lunch Program and Special Milk Program. The aim of the Plentiful Foods Program is to achieve orderly marketing of the Nation's abundant food supply. In addition to issuing a list of plentiful foods once a month, this Program encourages members of the food trade—all types of food services and commercial food distributors—as well as trade editors and other consumer media to promote increased retail sales of foods in bountiful supply.

In preparation for June Dairy Month, employees of the USDA plentiful foods program have been working with dairy industry leaders and trade and civic associations to coordinate promotional efforts on the national level. This will be tied in with special promotions through the National School Lunch Program, State departments of agriculture, and various industry groups.

In addition, USDA food trades representatives located in key market areas of the Nation have helped coordinate plans for June Dairy Month activities among the dairy industry and State and local governments. Through an intensive program of personal contacts, these tradesmen gain the participation of local food distributors and news media in the June Dairy Month promotion.

A wide variety of information materials have been prepared for June Dairy Month. Milk is featured on the June Plentiful Foods List, geared to promoting best use of these foods. One version of the list is written for the grocery trade, and another version for restaurants and others in the food service industry. To encourage these groups to give extra emphasis to June Dairy Month, special fact sheets are issued to give detailed information on milk and dairy products.

Material prepared especially for the mass media has also been issued by the Department and its five area marketing offices. Included are: press releases and statements by President Kennedy and Secretary of Agriculture Freeman, feature stories and recipe copy written for food editors, fact sheets giving background to the press, slides and short film clips for use as spot announcements on television, as well as other short features on dairy products for radio and television.

Year around, of course, the National School Lunch and Special Milk Programs encourage schools to serve milk to children through a system of Federal reimbursements. The Special Milk Program, which helps provide extra milk to supplement that served with school lunches, includes not only schools but also nonprofit institutions for children such as child-care centers and summer camps.

On an experimental basis, the Department has been working with State and

(continued on page 24)

People from many segments of American life are lending their support to the June Dairy Month Promotion. Movie actor Kirk Douglas and cartoonist Milton Caniff join USDA's Plentiful Foods staffers Ike Arneson and Bonnie Smith in a toast to dairy products.

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Dairy Products Top June Plentiful Foods List

THE biggest supplies of milk and dairy products in five years have easily won top billing on the June Plentiful Foods List. Runnersup are broiler-fryers and vegetable fats and oils.

As for milk production this year, the Agricultural Marketing Service reports it's likely to climb to 128 billion pounds. That would be 2.5 billion pounds greater than a year earlier. Meanwhile, supplies are expected to continue to exceed consumption in 1962-63, in spite of the lower support prices which were effective last April 1. Due to lower price supports, retail prices of a number of dairy products are expected to be lower this June than last.

June marketings of broiler-fryers—that perenially popular summertime feast—are expected to be about 5 percent below last June—however, marketings at that time were about 25 percent over June 1960. This upsurge in marketings in mid-June 1961 brought the lowest farm price on record for that month—12.8 cents a pound. The June 1962 price, though, may be about 1 to 2 cents higher than last June.

Commercial stocks of crude and semi-refined soybean and cottonseed oils on March 1 this year stood at an all-time high of 1.4 billion pounds.

Therefore, June food shoppers this year won't have to use too sharp a pencil, budget-wise, to keep milk and dairy products, broiler-fryers, and vegetable fats and oils on their daily shopping lists.

MILK DRINKERS

(continued from page 23)

local school officials during this school year to bring the benefits of lunch and milk service to many schools that were not previously able to take part in the programs because of local economic conditions. With special commodity assistance, for example, children began getting well-balanced noon meals in some 250 such schools for the first time—and each complete school lunch always includes at least one half-pint of milk.

Growth Through Agricultural Progress

These USDA efforts, contributing to the dairy industry's promotion, add up to an all-out push for milk and its products. Everyone—industry, government, the general public—has a stake in our goals of fair income for farmers and abundant and economical supplies of nutritious food for consumers.

STORED RICE

(continued from page 20)

first treatment, a heavy application of hydrogen cyanide (HCN) was best. Since a considerable amount of the HCN is absorbed by the rice, lighter applications could be used after the initial treatment. This absorbed HCN is released slowly under the tarpaulin, which establishes an equilibrium between the air within the stack and that in the immediate atmosphere around the rice.

The AMS researchers determined the lethality of the gas by placing adult specimens of rice weevil and confused flour beetle in probe-type cages and inserting the probes into the stacks at various depths and locations. The probes were checked for insect mortality at regular intervals throughout the exposure period of each stack.

The scientists conducted tests to determine how long lethal concentrations of HCN could be maintained beneath tarpaulins left in place without aeration. The initial fumigation in one series employed dosages of up to 3 pounds of HCN per 1,000 cubic feet of space. Refumigation one month later with 2 pounds of HCN per 1,000 cubic feet resulted in gas concentrations which remained lethal for several months.

Still another series of AMS tests which proved successful added 1 pound of HCN per 1,000 cubic feet of space to permanently covered stacks once each month for 3 months, then at the rate of 2½ pounds per 1,000 cubic feet each month for another 4 months. The resulting concentration of HCN was lethal to probed insects for as long as 10 months after the last fumigation.

As a result of these tests, it has been the practice to leave the tarpaulins in place following the introduction of the HCN and to check each stack at regular intervals with probed insects. Whenever the gas concentration falls below the lethal level, the stack is refumigated with sufficient gas to raise the concentration. In addition to surrounding the rice with the fumigant, the tarpaulin affords considerable protection against dirt, dust, glass, and rodents.

After the tarpaulin is removed, the stack is aerated with the aid of fans before the stack is broken down. This procedure provides enough aeration to remove the absorbed HCN so that warehousemen can handle the bagged rice in the stacks.